

Assignment 9-9 Integer Multiplication 5

The problem is to multiply two integers a and b . ($0 \leq a, b < 10^{250}$)

Input

The input consists of t ($30 \leq t \leq 40$) test cases. The first line of the input contains only positive integer t . Then t test cases follow. Each test case consists of two lines which give the two integers a and b ($0 \leq a, b < 10^{250}$).

Output

For each test case, you are to output a single line containing the product of a and b .

Sample Input

```
3
10
3
4
0
0
8
```

Sample Output

```
30
0
0
```

Part of the program

You are required to write the function `multiplication` to complete the following program which solves this problem. In your program, you cannot declare global variables or static arrays.

```
#include <iostream>
#include <cstring>
#include <vector>
using namespace::std;

// product = multiplicand * multiplier
vector< int > multiplication( vector< int > multiplicand, vector< int >
multiplier );

int main()
{
    char strA[ 251 ], strB[ 251 ];
```

```

int T;
cin >> T;
for( int t = 0; t < T; ++t )
{
    cin >> strA >> strB;

    int multiplicandSize = strlen( strA );
    vector< int > multiplicand( multiplicandSize );
    for( int i = 0; i < multiplicandSize; ++i )
        multiplicand[ i ] = strA[ multiplicandSize - 1 - i ] - '0';

    int multipliersSize = strlen( strB );
    vector< int > multiplier( multipliersSize );
    for( int i = 0; i < multipliersSize; ++i )
        multiplier[ i ] = strB[ multipliersSize - 1 - i ] - '0';

    vector< int > product = multiplication( multiplicand, multiplier );

    for( int i = product.size() - 1; i >= 0; i-- )
        cout << product[ i ];
    cout << endl;
}

// product = multiplicand * multiplier
vector< int > multiplication( vector< int > multiplicand, vector< int >
multiplier )
{

}

```